DOCUMENT RESUME

ED 359 634 EA 025 070

AUTHOR	Stedman, James B.; And Others
TITLE	National Education Goals: Where Are We Now? CRS Report for Congress.
INSTITUTION	Library of Congress, Washington, D.C. Congressional Research Service.
REPORT NO	CRS-90-169-EPW
PUB DATE	26 Mar 90
NOTE	23p.
PUB TYPE	Reports - Evaluative/Feasibility (142)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	*Educational Assessment; *Educational Improvement; *Educational Objectives; Educational Policy; *Educational Quality; Elementary Secondary Education; Excellence in Education; *Outcomes of Education; Standards
IDENTIFIERS	*National Education Goals 1990

ABSTRACT

The six national education goals designed to be achieved by the year 2000 address the following issues: (1) school readiness; (2) school completion; (3) student achievement; (4) U.S. mathematics and science performance compared to that in other countries; (5) adult literacy and lifelong learning; and (6) safe, disciplined, and drug-free schools. This report considers the status of the U.S. education system relative to these goals and analyzes the issues involved in assessing progress toward them. Available data relevant to each goal are presented. Findings include the following: (1) of all five-year-olds, six out of seven are enrolled in kindergarten or other preschool programs, as are nearly half of all four-year-olds; (2) only 7 out of 10 ninth-graders complete high school 4 years later; (3) a minority of elementary and secondary school students demonstrate competency in English, mathematics, and science; (4) math and science achievement scores for the U.S., in comparison to other developed countries, are often among the lowest; (5) one-eighth of American adults failed a literacy survey conducted for the U.S. Department of Education; and (6) one-third of all public secondary schools report one or more students caught selling drugs, four-fifths experience thefts, and nearly three-fourths report incidents of law breaking that warranted informing police. (Includes 35 notes.) (LMI)

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90-169 EPW

CRS Report for Congress

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National Education Goals: Where Are We Now?

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March 26, 1990

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NATIONAL EDUCATION GOALS: WHERE ARE WE NOW?

SUMMARY

President Bush and the Nation's Governors have adopted six national education goals to be achieved by the year 2000. These goals address certain issues: (1) school readiness; (2) school completion; (3) student achievement and citizenship; (4) U.S. mathematics and science performance compared to that in other countries; (5) adult literacy and lifelong learning; and (6) safe, disciplined, and drug-free schools.

This report considers the status of the U.S. education system relative to these goals, and analyzes the issues involved in assessing progress toward them. In doing so, it provides available data relevant to each goal. Among the data presented are the following: (1) Of all 5 year olds, 6 out of 7 are enrolled in kindergarten or other preschool programs, as are nearly half of all 4 year olds. (2) Only 7 out of 10 9th graders complete high school 4 years later. (3) A minority of elementary and secondary school students demonstrate competency in English, mathematics, and science, among other subjects. (4) Math and science achievement scores for the U.S., in comparison to other developed nations, are often among the lowest. (5) An eighth of American adults failed a literacy survey conducted for the U.S. Department of Education. (6) A third of all public secondary schools report one or more students caught selling drugs; four-fifths experience thefts; and nearly three-quarters report incidents of law breaking warranting informing police.

With currently available data, assessing where we are now relative to each goal is a complex task. Further, the President and the Governors have also agreed upon 21 "objectives," several for each goal. The objectives appear to serve one or more functions: Some serve to help explain a goal; some expand upon a goal and identify additional areas for national attention; and some offer specific steps that might be taken toward achievement of a goal.

The Governors, the President, and the Congress are engaged in further activities related to the national education goals. In addition, the Federal Government currently has programs in many of the areas encompassed by the national education goals and objectives.

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ACKNOWLEDGEMENTS

Wayne Clifton Riddle prepared the analysis of the Readiness goal, and the Mathematics and Science goal.

Bob Lyke prepared the analysis of the School Completion goal.

James B. Stedman prepared the analysis of the Student Achievement and Citizenship goal, and the Safe, Disciplined, and Drug-Free Schools goal.

Paul M. Irwin prepared the analysis of the Adult Literacy and Lifelong Learning goal.

NATIONAL EDUCATION GOALS: WHERE ARE WE NOW?

INTRODUCTION

At the end of February 1990, President Bush and the Nation's Governors adopted 6 national education goals to be achieved by the year 2000. These goals, based upon areas for educational improvement identified by the President and the Governors during their "education summit" in September 1989, are:[1]

- By the year 2000, all children in America will start school ready to learn.
- By the year 2000, the high school graduation rate will increase to at least 90 percent.
- By the year 2000, American students will leave grades 4, 8, and 12 having demonstrated competency over challenging subject matter including English, mathematics, science, history, and geography, and every school in America will ensure that all students learn to use their minds well, so they may be prepared for responsible citizenship, further learning, and productive employment in our modern economy.
- By the year 2000, U.S. students will be first in the world in mathematics and science achievement.
- By the year 2000, every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship.
- By the year 2000, every school in America will be free of drugs and violence and will offer a disciplined environment conducive to learning.

This report has an important, but limited, focus. It considers each goal on the basis of the following two questions:

- Where are we now?
- What are the issues in assessing progress?

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[1]National Governors' Association. *National Education Goals*. Feb. 25, 1990.

For the first question, the report provides a synopsis of the best available data describing where the American educational system currently stands relative to each goal. Status on some aspects of the goals can be generally assessed; other aspects are not currently appraised on a national basis.[2] The analysis of the second question considers, among other issues, how each goal might be interpreted, and what most appropriately might be measured to assess progress on each.[3] Brief attention is paid to the technicalities of measuring progress. There are necessary differences among the analyses of the various goals. Although the analysis of each goal covers these two questions, the diversity among the goals and the relative availability of measurement data raise different issues. Some Federal programs relevant to these goals are identified in the course of this analysis.[4]

Other meaningful questions, such as what strategies are needed to achieve these goals within the specified time frame, or what are the likely social and economic consequences of achieving these goals, are beyond the scope of the present report.

The President and the Governors have also agreed upon 21 "objectives," several for each goal. These are considered in this report as well. The objectives appear to serve one or more functions: Some serve to help explain a goal; some expand upon a goal and identify additional areas for national attention; and some offer specific steps that might be taken toward achievement of a goal.

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[2]The President and the Governors agreed in their 1989 education summit meeting that progress on the goals should be reported annually.

[3]Given the focus of most of the goals, the analysis primarily considers elementary and secondary education.

[4]There are numerous Federal programs that address different aspects of these goals. Among the Congressional Research Service reports identifying these Federal programs are: *Early Childhood Education and Development: Federal Policy Issues* (CRS Issue Brief 88048); *High School Dropouts: Current Federal Programs* (CRS Report for Congress 90-144 EPW); *Teachers: Issues for the 101st Congress* (CRS Report for Congress 90-117 EPW); *Science, Engineering, and Mathematics PreCollege and College Education* (CRS Issue Brief 88068); *Adult Literacy Issues, Programs, and Options* (CRS Issue Brief 85167); *Dwight D. Eisenhower Mathematics and Science Education Act: An Analysis of Recent Legislative Action and Program Evaluations* (CRS Report for Congress 89-24 EPW); *Carl D. Perkins Vocational Education Act: Issues for Reauthorization* (CRS Issue Brief 89069); *National Drug Control Strategy, 1989: Background and Policy Questions* (CRS Report for Congress 89-567 GOV).

The Governors, the President, and the Congress are engaged in further activities related to the national education goals. The Governors have announced that they will be working on identifying the strategies needed to achieve these goals and objectives. The President has proposed increases in parts of the U.S. Department of Education's budget in response to the education summit, including $20 million for summit "follow-up" activities, such as support for research on relevant reform strategies and data collection to measure progress on the goals. The Congress has held hearings on the capacity of current Federal data-gathering systems for assessing educational progress, and has before it legislative proposals related to this goal-setting effort and to reporting on progress toward achievement of goals. As has been noted, the Federal Government is currently active in many of the areas encompassed by the national education goals and objectives.

READINESS

Goal Number 1: By the year 2000, all children in America will start school ready to learn.

Where Are We Now?

We cannot specifically estimate the number of children who enter American elementary schools who are not yet "ready to learn." We do know that the proportion of children who prepare for first grade by attending kindergarten or prekindergarten programs has been steadily growing. Although few States require all children to attend kindergarten, 86 percent of 5 year olds were enrolled in kindergarten or other education programs in 1987. Among younger children in that year, 48 percent of 4 year olds and 29 percent of 3 year olds were enrolled in prekindergarten programs.

Unlike education at the elementary and secondary levels, over two-thirds of prekindergarten pupils attend private schools. Largely as a result of the attendant tuition costs, children from affluent or white families are much more likely to attend these programs than are children of poor or minority families.

Most poor children in prekindergarten programs are served by publicly supported institutions. The largest of these programs is the Federal Head Start program, which serves approximately 457,000 children age 3-5 years, at least 90 percent of whom must be from low income families.[5]

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[5]Typically, Head Start participants receive 1 year of half-day services that include education, nutrition, and health care. Substantial Federal aid for prekindergarten education is also provided under Education of the Handicapped Act programs for "developmentally delayed" children aged 0-5 years, and under the chapter 1, Elementary and Secondary Education Act, programs for disadvantaged pupils at prekindergarten through secondary levels.

In addition to Federal programs for early childhood education, approximately one-half of the States have recently implemented such programs. The State programs typically serve a relatively small number of disadvantaged or handicapped children, although large scale programs are provided in such States as California. Several States, such as Minnesota and Missouri, have also developed large scale programs of parent training and support, to improve parents' ability to assist the development of their young children.

Beyond academic deficits, children may not be ready to attend school due to nutrition or health problems. Infant malnutrition has been found by several studies to result in poor educational motivation and achievement in the school. Anemia has been found to be an especially common nutritional deficit among young children in the United States, leading to decreases in attentiveness and persistence. Inadequate prenatal or early childhood health care can also significantly reduce a child's ability to perform well in school. Perhaps the fastest growing, major problem in this regard is that of maternal use of "crack" cocaine during pregnancy, which results in long-term neurological and behavioral problems among an estimated 30,000 to, perhaps, as many as 375,000 children born each year.[6]

What Are The Issues In Assessing Progress?

The objectives associated with this goal provide some guidance on its intended meaning. It is stated that all "disadvantaged and disabled" children will have access to high quality and developmentally appropriate prekindergarten programs, that all parents will teach their children and receive training and support in this role, and that children will receive the nutrition and health care needed to be ready for school entry.

What specifically is meant by "readiness," and how can it be measured? Aside from the content of the stated objectives, it is not clear precisely what "readiness to attend school" means. Is the reference to readiness for first grade, or for kindergarten? Does it mean that all children should attend kindergarten, or a prekindergarten program, or need such programs be provided only to disadvantaged or handicapped children? It may be generally agreed that children need to have reached certain levels of intellectual and emotional maturity in order to productively begin elementary school, but there is much debate over the nature and necessary minimum levels of these qualifications. Are different degrees of readiness required for different types of kindergarten or first grade programs? Further, what are the health and nutrition aspects of "readiness," and how can progress toward them be measured?

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[6]Jean Jones and Melvina Ford of the Education and Public Welfare Division contributed the discussion of nutrition and health problems.

Certain States and education associations have attempted to provide specific and objective guidance on the school readiness question. For example, the State of South Carolina administers a readiness test to all pupils beginning first grade; the test is used for individualized instructional planning, not as an admissions barrier. Several local school districts administer a variety of readiness tests to pupils entering kindergarten or first grade. Sometimes these tests are used as, at least, a partial a basis for delaying entry of children into school. These school readiness tests have generally been developed by commercial test preparers. The spread of such tests has been attributed to an increased emphasis on assessing accountability in schools, and to growth in the number of children in prekindergarten education programs.

However, the administration of most readiness tests to young children, no matter how they are used, is controversial. Several education professional associations oppose the use of any tests as an entry requirement for elementary school, or the use of any formal, standardized, "pencil and paper" test to assess the educational status of young children.[7] They feel that such tests are too narrow for children of kindergarten or first grade age, place too much stress on them, and result in an unnecessary and destructive sense of failure among those with low scores. Nevertheless, there is much less objection to broader, multifaceted assessment methods, that are used only for the purposes of diagnosis and instructional improvement, not as a barrier to school entry.

In practice, readiness might best be measured in terms of such objectives as extending availability of prekindergarten education, health, and nutrition programs, rather than by any more direct measure of "readiness" for school. Or, if readiness tests are to be administered, they might best be used to estimate the progress of pupils in general, rather than as school entrance barriers for individual pupils tested.

SCHOOL COMPLETION

Goal Number Two: By the year 2000, the high school graduation rate will increase to at least 90 percent.

Where Are We Now?

The high school graduation rate shows the proportion of ninth grade students who graduate 4 years later. The Department of Education estimates that the national graduation rate in 1987 (the most recent year available) was 71.1 percent. Department estimates for 2 earlier years, 1982 and 1986, show

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[7]See, for example, National Association of State Boards of Education. *Right from the Start*. 1988. p. 14-15.

similar rates, 69.5 percent and 71.6 percent, respectively. Thus, recently the national graduation rate has not changed significantly.[8]

Graduation rates for individual States vary considerably. In 1987, the States with the highest graduation rates were Minnesota (90.6 percent) and Wyoming (89.3 percent); those with the lowest were Louisiana (60.1 percent), Florida (58.6 percent), and the District of Columbia (55.5 percent).[9]

A related objective is that "the Nation must dramatically reduce its dropout rate and 75 percent of those students who do drop out will successfully complete a high school degree or its equivalent." The Department of Education estimates that, in October 1988, about 13 percent of all young adults (people 16 to 24 years of age) were dropouts. The rate has declined from 16 percent in 1968.[10] (Note, as is explained below, that graduation rates and dropout rates measure different things.) Little is known about the proportion of dropouts who subsequently complete school. Results from one frequently cited survey show that 46 percent of 1980 high school sophomores who later dropped out obtained either a diploma or an equivalency certificate by 1986.[11]

An additional objective states that "the gap in high school graduation rates between American students from minority backgrounds and their non-minority counterparts will be eliminated." Currently, no graduation rate data by minority status are available. Research on dropouts, however, typically shows that some groups of minority students (among them African-Americans, Hispanics, and Native Americans) **in general** have higher dropout rates than non-minority students, though some (Asian-Americans) have lower rates. For example, October 1988 data on young adults (16 to 24 years of age) show that 12.7 percent of whites, 14.9 percent of African-Americans, and 35.8 percent of Hispanics were dropouts. Over the past two decades, differences in dropout rates for African-Americans and whites have declined substantially, though there has been little change in this respect for Hispanics.[12] It is not

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[8]U.S. Department of Education. Office of Planning, Budget and Evaluation. *State by State Summaries of Selected State Education Performance Chart Indicators*. Washington, 1989. Previous Department estimates for earlier years are somewhat different.

[9]Ibid.

[10]U.S. Department of Education. National Center for Education Statistics. *Dropout Rates in the United States: 1988*. Washington, September, 1989, p. 13.

[11]Ibid., p. 34. The results are from the Department of Education's High School and Beyond survey of 1980 high school seniors and sophomores.

[12]*Dropout Rates in the United States: 1988*, p. 14-16.

clear how much difference in dropout rates there is between minority and non-minority groups if **counterparts** from families of similar incomes and structures were compared.

What Are The Issues In Assessing Progress?

The high school graduation rate is a useful measure. In the United States, normal academic progress from the beginning of 9th grade to the end of 12th grade is expected to take 4 academic years, setting aside the summer months. Students who take less time, or who go on to college after 11th grade, are few in number. Students who take more time, or who drop out of school entirely, almost without exception are considered a cause for concern. In contrast to college students, for whom time off and part-time attendance are considered acceptable, the expectation is that high school students should complete their studies in 4 years.

The high school graduation rate sometimes is used as an inverse measure of the high school dropout rate (that is, the graduation rate is subtracted from 100 percent to find the dropout rate). This is a mistake. Students who do not graduate in 4 years may remain enrolled. Moreover, students who drop out prior to ninth grade are not even included in the measure. Conversely, some students who drop out return to school to graduate, sometimes even within the expected 4 years.[13]

The Department's graduation rate is intended to reflect students who receive high school diplomas, that is, who "graduate," not those who "complete" school with high school equivalency certificates, as do students passing the General Educational Development (GED) Test administered by the American Council on Education. While most students who complete high school receive diplomas, a substantial number receive certificates instead.[14] Some people consider equivalency certificates less satisfactory credentials than diplomas.

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[13]*Dropout Rates in the United States: 1988* makes a useful distinction among status rates (the proportion of people who have dropped out at a point in time, such as October, 1988), event rates (the proportion of students who drop out in a single year), and cohort rates (the proportion of a group of students who drop out over time). Each of these measures might or might not separately show those students who have returned to school after dropping out.

[14]In academic year 1985-1986, an estimated 2,642,000 students graduated from regular day school programs in the United States, both public and private. Graduates of other kinds of schools, such as residential schools for exceptional children and Federal schools for American Indians, are not included. In calendar year 1986, 428,000 GED credentials were issued, about one-third of which were to people 19 years old or less.

Currently the Department's graduation rate is based upon comparisons of **aggregate** numbers of ninth graders and graduates, not longitudinal studies of individual students. The number of ninth graders in **public schools** is compared with the number of public school graduates 4 years later. As a consequence, the rate may be marginally affected by changes in the numbers of students who repeat grades or reenter after having dropped out, as well as by changes in the number who transfer to or from private schools. Students who remain in private schools throughout high school are not included in the Department's rate at all.

STUDENT ACHIEVEMENT AND CITIZENSHIP

Goal Number 3: By the year 2000, American students will leave grades 4, 8, and 12 having demonstrated competency over challenging subject matter including English, mathematics, science, history, and geography, and every school in America will ensure that all students learn to use their minds well, so they may be prepared for responsible citizenship, further learning, and productive employment in our modern economy.

Where Are We Now?

According to the National Assessment of Education Progress (NAEP), a minority of students at ages 9, 13, and 17 demonstrate competency in these various subject areas.[15]

English competency can be measured by performance on NAEP reading and writing tests. Focusing on reading, the following mastery is exhibited.[16] Approximately 63 percent of 9 year olds, 95 percent of 13 year olds, and 99 percent of 17 year olds can read at a basic level, at least, where they can understand and make inferences from simple passages. Competency at higher skill levels drops off significantly. For example, 1 percent of 9 year olds, 11 percent of 13 year olds, and 42 percent of 17 year olds can understand many different kinds of reading material, and summarize and expound on texts read. Only 5 percent of 17 year olds and almost no 9 or 13 year olds can

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[15]NAEP is authorized by the General Education Provisions Act, P.L. 90-247, as amended. Current law specifies that, every 2 years, NAEP is to assess the performance of students aged 9, 13, 17 and students in grades 4, 8, 12. Historically, NAEP has assessed students by age group. Recent assessments have included specific grade levels as well. The discussion below addresses reading, mathematics, and science, for which there are data for different age groups over the past two decades. NAEP conducted its first assessment of 17 year old students' knowledge of history in 1986 and its first assessment of high school seniors' understanding of geography in 1988.

[16]Educational Testing Service. *The Reading Report Card, 1971-88.* Prepared under a grant from the National Center for Education Statistics, January 1990.

synthesize and generalize from professional and technical texts, the kind largely found in business and higher education. Over the past two decades, 9 and 17 year olds improved their average reading competency significantly, while 13 year olds, on average, in 1988 were reading at their 1971 average level.

In **mathematics**, the following NAEP data apply.[17] Approximately 21 percent of 9 year olds, 73 percent of 13 year olds, and 96 percent of 17 year olds have mastered basic addition, subtraction, multiplication, and division with whole numbers. Fewer students can work at higher levels of mastery. Only 1 percent of 9 year olds can use mixed numbers and solve basic equations; 16 percent of 13 year olds, and 51 percent of 17 year olds can also work at that level. Mastery of basic algebra and multi-step equations is exhibited by nearly no 9 or 13 year olds, and by 6 percent of 17 year olds. On average, 9 and 13 year olds in 1986 outscored their 1973 counterparts; despite decline across the 1970s, 17 year olds by 1986 had nearly recovered to their 1973 level.

In the **sciences**, the results from NAEP are the following.[18] Approximately 28 percent of 9 year olds, 53 percent of 13 year olds, and 81 percent of 17 year olds have mastered simple scientific facts and principles, and can apply that information. The highest level of mastery identified by NAEP, that is, having an ability to use advanced scientific knowledge to make inferences and reach conclusions, particularly involving chemistry, is achieved by almost no 9 and 13 year olds, and 7 percent of 17 year olds. For 9 and 13 year olds, their 1986 average scores were nearly the same as those in 1970, despite substantial declines in the 1970s. Although experiencing some improvement in the 1980s, the average score for 17 year olds in 1986 was significantly below the 1970 level.

Accompanying this goal are five objectives. Students' performance is to improve across the spectrum with significant increases in each quartile--minority students' scores are to more nearly mirror those of all students. There are to be substantial increases in students' ability to do problem solving, reason, apply knowledge, write, and communicate. All students are to engage in community service and other activities leading to good citizenship and responsibility. There is to be a substantial increase in the extent to which students have mastered a second language. All students are to have an understanding of the Nation's diverse cultural heritage and of the world.

The current status of student performance relative to some of these objectives can be assessed; for other objectives, it cannot be. The NAEP data

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[17]Educational Testing Service. *Crossroads in American Education*. February 1989.

[18]Ibid.

delineate the extent to which minority students' academic skills and knowledge currently falls below that of white students. For example, in mathematics, the average black student's score is 25 points beneath the average white score at age 9, 24 points below at age 13, and 29 points below at age 17. The average Hispanic score is 21, 19, and 24 points below at those respective ages. The gap for each minority group is still greater in the sciences. In both of these subject areas, the average score for black and Hispanic **17 year olds** is almost the same as that for white **13 year olds**. Nevertheless, over the course of the preceding two decades, the gap that separates average scores for whites from those of blacks and Hispanics, in those subjects for which NAEP has assessment data, has **narrowed** substantially.

High school course-taking patterns can be used to suggest the extent of mastery of a second language. In 1985, 32 percent of all secondary school students were enrolled in one or more foreign language course.[19] This reflects a substantial improvement over course-taking in the early 1980s and in the 1970s.

What Are The Issues In Assessing Progress?

The goal and objectives, considered in conjunction, cover a broad array of specific subject matter, intellectual skills, and student activity. They pose substantial challenges to schools, embracing significant improvement in curriculum, formidable improvements in students' performance, and provision of many new opportunities for community service and other activities.

There are certain aspects of this goal that should be identified. By focusing on "demonstrated competency" in specified subject areas, this goal requires student performance to reach or exceed certain levels of mastery. The goal is not relative to other students' performance; rather, it creates thresholds of performance to be achieved. Given the relatively small percentage of students who have achieved significant levels of understanding and mastery over subject matter, dramatic improvements in performance over the course of the decade will be required. In addition, the goal might be interpreted to require achievement at, or beyond, the designated threshold as a **condition** for promotion or graduation.

Further, the goal and its objectives reflect concern about academic performance by **all** students, including those scoring at the lowest levels and those from minority backgrounds. Arguably, a presumption that all children can learn, regardless of background, underlies this goal. Although this

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[19]U.S. Library of Congress. Congressional Research Service. *Foreign Language and International Education: The Federal Role*. CRS Report for Congress No. 89-657 EPW, by Wayne Clifton Riddle. Washington, Nov. 20, 1989. This report also discusses different measures at the postsecondary level of foreign language study.

presumption is the basis for some reform efforts, many current school policies and practices may promote the linkage between socioeconomic background and academic performance.[20]

The NAEP examinations are likely to be among the key assessments used to measure progress on this goal. The goal, though, may be interpreted as requiring measurements that go beyond those typically associated with paper and pencil tests such as NAEP. Other methods of assessing students' abilities might involve the preparation of portfolios of work, or performances to demonstrate competency in different subject matter.

MATHEMATICS AND SCIENCE

Goal Number 4: By the year 2000, U.S. students will be first in the world in mathematics and science achievement.

Where Are We Now?

The most recent international tests provide data on general science achievement for 10 and 14 year olds, plus achievement specifically in physics, biology, and chemistry for high school seniors. General mathematics achievement was measured for 13 year olds and high school seniors. The scores of U.S. pupils on these tests have been generally, although not uniformly, low. The achievement test scores for the United States, in comparison to other developed nations that participated in each test, were at approximately the average in science for 10 year olds and for high school seniors in physics. United States students' scores were among the lowest in science for 14 year olds, chemistry and biology for high school seniors, and in mathematics at both age-grade levels (13 year olds and high school seniors). Among other nations, scores were highest for Japan in science for 10 and 14 year olds and in mathematics for both age/grade levels, but students in the United Kingdom received the highest scores in all three science subjects for students in their final year of secondary school.

The primary source of examinations of the comparative achievement of U.S. pupils has been the International Association for the Evaluation of Educational Achievement (IEA), a voluntary body of governmental and private educational research organizations in a variety of nations. It is the source for data presented above. The IEA has sponsored tests of achievement in science, mathematics, and other subjects, by pupils at several elementary and secondary grade levels, during two time periods--the late 1960s and early 1980s. More recently, the United States-based Educational Testing Service

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[20]U.S. Library of Congress. Congressional Research Service. *The Educational Attainment of Select Groups of "At Risk" Children and Youth.* CRS Report for Congress No. 87-290 EPW, by James B. Stedman. Washington, Apr. 1, 1987.

(ETS) conducted an examination of science and mathematics achievement of 13 year old pupils in a smaller and less comparable group of nations.[21]

The results for the recent round of testing are similar to those for the first round of IEA tests, administered in the late 1960s, so the trend for relative U.S. scores has been neither significantly upward or downward. U.S. scores were also comparatively low on the 1989 ETS tests, on which American pupils were lowest in mathematics, and in the lower third of nations in science. However, the ETS test was administered only in the United States, the United Kingdom, Spain, South Korea, Ireland, and several Canadian provinces.

What Are The Issues In Assessing Progress?

This goal is perhaps the most straightforward in terms of assessment. In order for the goal to be attained, valid examinations of comparative achievement in science and mathematics must be administered, and U.S. pupils must receive the top scores.

Of course, there are practical problems in assessing whether this goal has been attained--such as assuring that the IEA, ETS, or some other organization has sufficient interest and financial support to develop and conduct the examinations, and that enough foreign nations participate to make the exercise meaningful. It may also be debated whether U.S. scores must be first in **each** subject and age/grade level in order for the goal to be met. Nevertheless, the **concept** embodied in this goal is relatively simple and measurable.

A variety of nations have participated in the IEA and ETS tests of comparative educational achievement. The comparability of some of these to the United States is questionable in terms of either their small size and relative homogeneity (e.g., Israel, Hong Kong), or in terms of the structure of their secondary education systems. In several of the participating nations (e.g., France, United Kingdom, Hong Kong), all but the most academically oriented minority of students are directed out of secondary school into job training programs at relatively early ages, while the remaining students attend high school for a year longer than Americans and specialize much more in specific subjects. Finally, some nations with which we might want to compare ourselves frequently refuse to participate in these examinations (e.g., West Germany).

Unlike some of the other goals, this goal could be directly assessed, but the stated objectives are rather ambiguous and difficult to measure. What is

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[21]For further information, see U.S. Library of Congress. Congressional Research Service. *Comparative Education: Statistics on Education in the United States and Selected Foreign Nations*. CRS Report for Congress No. 88-764 EPW, by Kenneth Redd and Wayne Riddle. Washington, Nov. 14, 1988.

the concrete meaning of the objectives of "strengthening" mathematics and science education at all grade levels, increasing by 50 percent the number of teachers with a "substantive" background in mathematics and science, or "significantly" increasing the number of students who earn degrees in these fields?

Aside from measurement issues, a basic problem with this goal is its relativity. It is aimed not toward attaining some specified level of science and mathematics knowledge among U.S. pupils, but rather to attain a level higher than that of other nations. The level of knowledge associated with this goal cannot be defined before the assessment--we do not know what the "highest level" of achievement is until we see how well students in other nations score on whatever tests are administered. We also cannot determine whether this level of knowledge is functionally related to our economic, civic, and other national needs. Depending on the performance of other nations and which of them choose to participate in the tests, this standard might either be lower than desirable in terms of our national needs, or higher than is practically attainable, at least without restructuring our secondary education system to make it more selective and specialized than would be preferred by most Americans. Test scores, especially for high school seniors, **could** be adjusted to account for such factors as selectivity, but in that case would the goal still have been met?

ADULT LITERACY AND LIFELONG LEARNING

Goal Number 5: By the year 2000, every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship.

Where Are We Now?

An estimated 13 percent of American adults, between 17 and 21 million persons, failed the literacy survey conducted for the U.S. Department of Education in 1982.[22] Passage of this literacy test is perhaps equivalent to obtaining an elementary school level of education. Some contend that, not only elementary, but also higher levels of knowledge and skills, are necessary for global economic competition. Postsecondary education is thought essential for many of the more skilled jobs in the technological growth areas, but 60 percent of the adult population have never gone beyond a high school education.[23] Consensus is difficult on standards of citizenship, but roughly 50

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[22]U.S. Department of Education. *Adult literacy estimates for States.* Revised Apr. 14, 1986.

[23]U.S. Department of Education. National Center for Education Statistics. *Digest of Education Statistics 1989.* Table 11.

percent of the voting age population cast votes for President and less than 40 percent voted for U.S. Representatives in recent elections.[24]

The objectives of this goal expand this topic into the broad areas of advanced education and job training in the work force. The first **two objectives** call for: (a) every major American business to be involved in strengthening the connection between education and work; and (b) all workers to be provided the opportunity to gain the knowledge and skills needed for new technologies and markets through public and private educational or workplace programs. As one indicator, employers provide only 11 percent of their employees with formal training and 14 percent with informal training to prepare for their jobs, while spending $30 billion annually for formal training and development programs, according to a 1985 survey by the Bureau of Labor Statistics.[25] **A third objective** would substantially increase the number of quality programs, including those at libraries, designed for part-time and mid-career students; in the latest survey, 13 percent of the adult population participated in adult education programs, and four-fifths of these were employed.[26]

The **last two objectives** concern postsecondary education, calling for substantial increases in: (a) the percentage of qualified students, especially minorities, who enter college, complete at least two years of college, and complete degree programs; and (b) the proportion of college graduates with advanced abilities in critical thinking, communication, and problem solving. In recent years, the gap between the enrollment rate for all students and the rate for minority students has grown.[27] In 1983, 32.5 percent of all 18 to 24 year old high school graduates were enrolled compared to 27.1 percent of black high school graduates; 5 years later, the overall rate was 37.2 percent while the black rate was 28.1 percent. The 1983 percentage for Hispanics was 31.4; the 1988 percentage was down to 30.9. The percentage of degrees earned by minorities is lower than their overall representation in the college population. For example, in 1986, 19 percent of undergraduate enrollment was minority; in that same academic year, 12.1 percent of the bachelor's degree recipients were minority.[28] Finally, it should be noted that there is no

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[24]U.S. Department of Commerce. Bureau of the Census. *Statistical Abstract of the United States 1988*. Table 419.

[25]As reported by Anthony P. Carnevale and Janet W. Johnston in *Training America: Strategies for the Nation*, p. 5.

[26]*Digest of Education Statistics 1989*, Table 296.

[27]Carter, Deborah J., and Reginald Wilson. *Eighth Annual Status Report on Minorities in Higher Education*. American Council on Education, Dec. 1989.

[28]Ibid.; *Digest of Education Statistics 1989*, Table 176.

generally accepted measure for the progress of "qualified" students through college, however, nor a standard for "advanced abilities" for college students.

What Are The Issues In Assessing Progress?

Adult literacy, lifelong learning, global economic competition, and the responsibilities of citizenship imply a broad range of educational activities and issues. The objectives include job training programs provided by employers, new technologies, libraries, institutions of higher education, and increased participation by minority groups in postsecondary programs. Except for universal literacy, the goal and objectives provide little in the way of details or standards for assessing progress by the year 2000.

We have only a few measures to determine the current status and progress in the activities related to this goal. Existing measures include an elementary measure of literacy, enrollment rates for postsecondary and adult education, and voting rates. The U.S. Department of Education is in the process of determining the basic skills necessary for a new comprehensive definition of literacy, with a legislative mandate to estimate the number of illiterate adults once the new definition is developed.[29] There are also predictions of the growth in jobs in high technology areas, but few estimates exist concerning how many workers will be trained for these jobs without new programs or activities that respond specifically to this goal. For monitoring progress toward this goal in the year 2000, several critical indicators may need to be developed. These include measures concerning the supply and demand for skills necessary for global economic competition, the rights and responsibilities of citizenship, major business participation in education and work activities, the quality of programs for adult learners, and advanced or critical skills at the postsecondary level.

Because of the great diversity of populations to be served, a wide range of efforts is needed to attain this goal. Adult literacy problems are concentrated on individuals who are often the most economically and educationally disadvantaged persons in society, typically having the equivalent of less than a fifth grade education. On the other hand, existing adult education programs involve population groups that are more likely to have a college education, income above the national median, and work in executive, professional, or technical occupations. Determining where intervention is needed within this continuum, as well as where it is not needed, will be a complex and challenging problem.

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[29]Section 383 of the Adult Education Act, as amended by P.L. 100-297.

SAFE, DISCIPLINED, AND DRUG-FREE SCHOOLS

Goal Number 6: By the year 2000, every school in America will be free of drugs and violence and will offer a disciplined environment conducive to learning.

Where Are We Now?

The following data provide some perspective on the current status relative to this goal.

- In 1983-84, in an estimated 35 percent of all public secondary schools, one or more students was caught selling drugs; in 82 percent, thefts were reported; and, in 72 percent, police were informed of incidents of law breaking.[30]

- Schools were the setting in 1987 for nearly 3 million criminal actions, of which 465,000 involved violence.[31] Although thefts declined substantially from 1982, violent incidents in schools did not.

- An estimated 51 percent of all 1989 high school seniors reported using illicit drugs at some point in their lives; 35 percent had done so in the past 12 months; and 20 percent had done so in the preceding 30 days.[32] Over the course of the 1980s, these rates of usage fell.[33]

The three objectives accompanying the goal offer a somewhat different perspective on assessing where we are now. All **schools** are to "implement a firm and fair policy on use, possession, and distribution of drugs and alcohol." There are to be cooperative efforts among parents, business, and community organizations to "ensure that schools are a safe haven for all children." All **school districts** are to develop a drug and alcohol abuse education program; appropriate curricula is to be incorporated into health

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[30]*Digest of Education Statistics 1989*, Table 126.

[31]Wetzel, James. School Crime: A Statistical Snapshot. *School Safety*, winter 1989.

[32]The University of Michigan. News and Information Services. February 9, 1990. This press release reports on findings from the 1989 national survey of U.S. high school seniors.

[33]Lloyd D. Johnston, principal investigator of the annual survey of high school seniors, concluded, "[T]he likelihood of a young person in high school or college today actively using illicit drugs is only about half of what it was a decade ago." (University of Michigan, News and Information Services)

education; and teachers and students are to receive "support" from "community-based teams."

The Nation's current status for some facets of these objectives can be described, but not for others. In 1987, close to 75 percent of all school districts had written drug policies; 4 percent had drug-testing programs.[34] This is likely to increase still further with enactment of the Drug-Free Schools and Communities Act Amendments of 1989 (P.L. 101-226), which require all school districts and collegiate institutions to implement drug and alcohol abuse prevention programs as a condition for the receipt of Federal funds. In 1987, 63 percent of all districts required instruction on drug abuse, typically as part of the health education curriculum.[35]

What Are The Issues In Assessing Progress?

From an educational perspective, it is important to ask whether being "free of drugs" requires not only that there be no possession, use, or distribution of drugs on the school campus, but that the school also be free from the **effects** of drugs, e.g., no students will come to school under the influence of drugs. Both conditions are desirable, with educational consequences.

Concerning violence, there should be a recognition that policies vary from school to school, and district to district, about what is a punishable offense. At a minimum, some common understanding of the proscribed behavior under this goal should be reached.

With regard to the last facet of the goal--the presence of a "disciplined environment conducive to learning," one might argue that eliminating drugs and violence will, in fact, create that learning environment, requiring no separate measurement of progress on this aspect of the goal. Nevertheless, there may be disagreement as to what characterizes a learning environment. Some observers may consider the high levels of student activity that can accompany some instruction as undisciplined and not conducive for learning; others might view these as evidence of student engagement in learning. Perhaps one of the clearest indications of whether a school offers an appropriate learning environment is in the academic outcomes achieved by its students.

The objectives for this goal identify specific steps that should be taken by individual schools and school districts. Although achievement of these

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[34]U.S. Department of Education. Report to Congress on the Nature and Effectiveness of Federal, State, and Local Drug Prevention/Education Programs. Executive Summary. October 1987. Data on a school-by-school basis, as is called for by one of the objectives, are not readily available.

[35]Ibid.

objectives would not necessarily mean that the goal had been achieved, the objectives do suggest an approach to eliminating drugs and violence in schools that combines disciplinary policies, education, and community involvement.